IN THE CLAIMS

1. (Original): A method of manufacturing a silica-based organic film, comprising the steps of:

applying a coating solution on a target material to form a coating film, the coating solution containing a reaction product obtained by hydrolyzing, in an organic solvent in the presence of an acid catalyst, at least one first alkoxysilane compound selected from the group consisting of compounds represented by general formula (I):

$R^1{}_2Si(OR^2)_2$ ··· (I)

wherein R^1 represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and R^2 represents an alkyl group having 1 to 4 carbon atoms,

and compounds represented by general formula (II):

$R^3Si(OR^4)_3$ ··· (II)

wherein R^3 represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and R^4 represents an alkyl group having 1 to 4 carbon atoms,

and

baking the coating film in an atmosphere having an oxygen concentration of 1000 ppm or less to form a film.

2. (Original): A method of manufacturing a silica-based organic film, comprising the steps of:

applying a coating solution on a target material to form a coating film, the coating solution containing a reaction product obtained by hydrolyzing, in an organic solvent in the presence of an acid catalyst, at least one said first alkoxysilane compound and at least one second alkoxysilane compound selected from the group consisting of compounds represented by general formula (III):

$Si(OR^5)_4$ ··· (III)

wherein R^5 represents an alkyl group having 1 to 4 carbon atoms,

and

baking the coating film in an atmosphere having an oxygen concentration of 1000 ppm or less to form a film.

3. (Original): The method of manufacturing a silica-based organic film according to claim 2, wherein a molar ratio of the first alkoxysilane compound to the second alkoxysilane compound is from 1:2 to 4:1.

4. (Original): The method of manufacturing a silica-based organic film according to claim 1 or 2, wherein a carbon content in the film is from 6 to 18 atm%.

5. (Original): The method of manufacturing a silica-based organic film according to claim 1 or 2, wherein an organic group content, which is represented as a ratio of the total of a peak area of SiR^1 and a peak area of SiR^3 to a peak area of Si-O-Si in a spectrum obtained by measuring an infrared absorption spectrum of the film, is 0.01 or more.

6. (Original): The method of manufacturing a silica-based organic film according to claim 1 or 2, wherein an etching rate of the film in wet etching using hydrofluoric acid having a concentration of 0.5% by weight is 60 angstroms/min or less.

7. (Original): The method of manufacturing a silica-based organic film according to claim 1 or 2, wherein a baking temperature in the baking step is from 600°C to 750°C.

8. (Original): The method of manufacturing a silica-based organic film according to claim 1, wherein the hydrolysis treatment is conducted by adding water in an amount of 2 to 10 mol per 1 mol of the first alkoxysilane compound.

9. (Original): The method of manufacturing a silica-based organic film according to claim 2, wherein the hydrolysis treatment is conducted by adding water in an amount of 2 to 10 mol per 1 mol of the total amount of the first alkoxysilane compound and the second alkoxysilane compound.

10. (Original): The method of manufacturing a silica-based organic film according to claim 1 or 2, wherein the reaction product is a siloxane oligomer.

11. (Original): The method of manufacturing a silica-based organic film according to claim 10, wherein a weight-average molecular weight of the siloxane oligomer is within a range from 1000 to 4000.

12. (Original): The method of manufacturing a silica-based organic film according to claim 1 or 2, wherein R^1 and R^3 are methyl groups.

13. (Original): The method of manufacturing a silica-based organic film according to claim 1 or 2, wherein the water content with respect to the amount of the solvent excluding the solid content of the coating solution is from 1 to 30% by weight.

14. (Original): The method of manufacturing a silica-based organic film according to claim 1 or 2, wherein the baking step is conducted in an inert gas atmosphere.

15. (Original): The method of manufacturing a silica-based organic film according to claim 14, wherein the inert gas is a nitrogen gas.

16. (Original): The method of manufacturing a silica-based organic film according to claim 1 or 2, further comprising a first drying step of heating the film to 50 to 100°C for 30 to 90 seconds between the applying step and the baking step, a second drying step of heating to 130 to 170°C for 30 to 90 seconds after the first drying step, and a third drying step of heating to 190 to 220°C for 30 to 90 seconds after the second drying step.

17. (Currently amended): A silica-based organic film obtained by a method comprising the steps of:

applying a coating solution on a target material to form a coating film, the coating solution containing a reaction product obtained by hydrolyzing, in an organic solvent in the presence of an acid catalyst, at least one first alkoxysilane compound selected from the group consisting of compounds represented by general formula (I):

$R^1{}_2Si(OR^2)_2$ ··· (I)

wherein R^1 represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and R^2 represents an alkyl group having 1 to 4 carbon atoms,

and compounds represented by general formula (II):

$R^3Si(OR^4)_3$ ··· (II)

wherein R^3 represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and R^4 represents an alkyl group having 1 to 4 carbon atoms,

and

baking the coating film in an atmosphere having an oxygen concentration of 1000 ppm or less, and at a temperature of from ~~about~~ 680 °C to ~~about~~ 750 °C, to form a film.

18. (Previously amended): The silica-based organic film according to claim 17, wherein an etching rate of the film in wet etching using hydrofluoric acid having a concentration of 0.5% by weight is 60 angstroms/min or less.

19. (Original): The silica-based organic film according to claim 18, wherein an organic group content, which is represented as a ratio of the total of a peak area of SiR^1 and a peak area of SiR^3 to a peak area of Si-O-Si in a spectrum obtained by measuring an infrared absorption spectrum of the film, is 0.01 or more.

20. (Original): The silica-based organic film according to claim 18, wherein a carbon content is from 6 to 18 atm%.

21. (Original): A base material comprising a substrate and a first wiring pattern which is heat-resistant to a temperature of 600°C or higher provided on the substrate, said

base material further comprising the silica-based organic film of claim 17 which covers the first wiring pattern.

22. (Original): The base material according to claim 21, wherein the first wiring pattern contains a polycrystalline silicon.

23. (Original): The base material according to claim 21, further comprising an intermediate layer formed by a chemical vapor phase process between the first wiring pattern and the silica-based organic film.

24. (Original): The base material according to claim 23, wherein a minimum value of a wiring distance of the first wiring pattern in the state of being coated with the intermediate layer is 0.25 μm or less.

25. (Original): The base material according to claim 23, wherein the intermediate layer contains silicon nitride.

26. (Original): The base material according to claim 23, which is provided with contact holes piercing through the silica-based organic film and the intermediate layer, said contact holes being filled with a conductive material.

27. (Original): The base material according to claim 26, wherein the conductive material contains tungsten.

28. (Original): The base material according to claim 21, wherein a second wiring pattern which is heat-resistant to a temperature of 400 to 500°C is provided on the opposite side of the substrate relative to the silica-based organic film.

29. (Original): The base material according to claim 28, wherein the second wiring pattern contains aluminum.

30. (Currently amended) A silica-based organic film obtained by a method, comprising the steps of:

applying a coating solution on a target material to form a coating film, the coating solution containing a reaction product obtained by hydrolyzing, in an organic solvent in the presence of an acid catalyst, at least one first alkoxysilane compound selected from the group consisting of compounds represented by general formula (I):

$R^1{}_2Si(OR^2)_2$ ··· (I)

wherein R^1 represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and R^2 represents an alkyl group having 1 to 4 carbon atoms,

and compounds represented by general formula (II):

$R^3Si(OR^4)_3$ ··· (II)

wherein R^3 represents an alkyl group having 1 to 4 carbon atoms or a phenyl group, and R^4 represents an alkyl group having 1 to 4 carbon atoms,

and at least one second alkoxysilane compound selected from the group consisting of compounds represented by general formula (III):

$Si(OR^5)_4$ ··· (III)

wherein R^5 represents an alkyl group having 1 to 4 carbon atoms,

and

baking the coating film in an atmosphere having an oxygen concentration of 1000 ppm or less, and at a temperature of from ~~about~~ 680 °C to ~~about~~ 750 °C, to form a film.

31. (Previously added) The silica-based organic film according to claim 30, wherein an etching rate of the film in wet etching using hydrofluoric acid having a concentration of 0.5% by weight is 60 angstroms/min or less.

32. (Previously added) The silica-based organic film according to claim 31, wherein an organic group content, which is represented as a ratio of the total of a peak

area of SiR^1 and a peak area of SiR^3 to a peak area of Si-O-Si in a spectrum obtained by measuring an infrared absorption spectrum of the film, is 0.01 or more.

33. (Previously added) The silica-based organic film according to claim 31, wherein a carbon content in the film is from 6 to 18 atm%.